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THE JOURNAL OF PHILOSOPHY

VOL. XLVI, No. 8: APRIL 14, 1949

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PUBLISHED FORTNIGHTLY

BY THE

JOURNAL OF PHILOSOPHY, INC.

THE JOURNAL OF PHILOSOPHY

FOUNDED BY FREDERICK J. E. WOODBRIDGE AND WENDELL T. BUSH

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THE JOURNAL OF PHILOSOPHY is owned by the Journal of Philosophy, Inc., and published fortnightly at Prince and Lemon Sts., Lancaster, Pa. Editorial Office: 515 West 116th St., New York 27, N. Y. President, Herbert W. Schneider; Vice President, John H. Randall, Jr.; Treasurer, Frederick A. Dewey; Secretary, Iris Wilder Dean.

Communications to the editors should be addressed to the Managing Editor, 515 West 116th Street, New York 27, N. Y. Subscriptions and advertisements should be sent to THE JOURNAL OF PHILOSOPHY, Prince and Lemon Streets, Lancaster, Pa., or 515 West 116th Street, New York 27, N. Y. The annual subscription price (twenty-six numbers) is $5.00. The price of single numbers is 30 cents.

Entered as second class matter, March 18, 1921, at the Post Office at Lancaster, Pa., under Act of Congress of March 3, 1879.

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VOLUME XLVI, No. 8 APRIL 14, 1949

THE JOURNAL OF PHILOSOPHY

A NOTE ON THE GROUNDS OF EVIDENCE

FOR any proposition about matters of fact, what is the basis or ground of the evidence for its truth? The question is frequently and variously formulated in contemporary discussion. Knowledge, it is felt, must be organized or at least organizable down to the last first principle; and the quest is on for the evidence behind the evidential function of evidence.

In these pages it is proposed to examine one particular form of the quest: the kind of theory which appeals to objects known sometimes as the "data of immediate experience" in order to secure unconditional truths which will determine the ultimate evidence for and meaning of factual statements as a class. Call this theory the immediacy theory: Atlas, who bears the truth upon his shoulders, since he must stand somewhere, stands upon appearances.

The doctrine finds many kinds of supporters and a parallel plurality of arguments. Since we are interested not in the specimen but in the type we may profitably avoid full scale presentations like those of C. I. Lewis and Rudolf Carnap and seek instead a case in which the requirements of a problem demand the use of the theory's fundamental operating hypotheses rather than an elaboration of detail. A sharply written article, "On the Certainty of Empirical Statements," by Mr. Paul Henle furnishes us with such a case.[1] In terms of that article we may state and examine the defining theses of the immediacy theory; and then, later, in connection with our findings, show briefly but positively how certain characteristics of empirical science may be conceived to function as an alternative in the theory of knowledge to the critical theses of the immediacy theory.

I

How, Mr. Henle questions, can increments of probability accrue in the process of verification to some factual statement "*p*" if the factual statement "*q*" which is any truth condition for "*p*" requires for its truth condition another factual statement "*r*," "*r*" some "*s*," and so on?

[1] This JOURNAL, Vol. XLIV (1947), pp. 625–632. All quotations from Mr. Henle's article which appear in this essay derive from pages 629–631.

> In showing that the statement "This is iron" involves for its verification the statement "This is a magnet" and that in turn the statement "That is a compass" and so on, one might be led to expect that not merely certainty, but also any degree of confirmation would be lost in the un-ending process. What is required is to show that not merely, negatively, there is no certainty attained in the process, but also, positively, that there is a gain in probability.

And then the immediacy theory is called upon to explain how evidence is possible.

> The key to such an explanation lies in what might be called statements of appearance. These constitute the one class of empirical statements which may be evidentially certain. . . . [For] statements about appearance have evidential value for statements about objects and events.

"This looks like iron" is evidence, however slight, for "This is iron"; we need not retreat to infinity; we have found stopping places.

Such is the provocation for Mr. Henle's use of the immediacy theory, and such the bare bones of it, which alone concern us: (1) Statements of appearance are both empirical and evidentially certain. (2) They are as such evidence for matters of fact. Assuming that we understand (1), let us begin with his phrasing of (2): Granted "the possibility of faulty recollection, misinterpretation of data and like," still "the mere fact that an object looks like something to some one is some evidence that it is that thing."

We can best assess this contention through reformulating it. In that way we may make a large point in a small space. Consider, then, Mr. Henle's statement truncated into the following: "That something looks like something to someone is evidence that it is that thing." The expression, obviously, is true for some values of "something" and "someone" and not for others, as they occur in specific contexts and under specific conditions. Hence as a generalization the sentence is false. But since we may presume that Mr. Henle does not intend what is patently false, the point of his original sentence must derive from the qualification he has, in effect, affixed before our truncated version. The first qualification is not crucial: Granting "the possibility of faulty recollection, misinterpretation of data and the like" causes him only to lower the *degree* of evidence which self-evidently certain statements of appearance may safely be considered to reflect upon matters of fact. The second qualification it is, therefore, which determines the meaning of the entire sentence. What, then, can Mr. Henle mean when he prefaces his assertion by the "mere fact"? Once again suppose that he can not intend what is transparently false. Then the addition of the phrase "the mere fact" must be designed to stipulate the removal of those conditions which if understood as part of the

sentence's meaning would make the sentence false. Those conditions clearly are the specific conditions and contexts referred to just above. We propose, then, that thesis 2 of the immediacy theory, as stated by Mr. Henle, may reasonably be interpreted to say "It is true that something looks like something to someone is evidence that it is that thing" where " 'something' and 'someone' are *anyone* and *anything* under *any* circumstances."

The reformulation leads to an obvious conclusion. The evidential character of statements of appearance is so stated that one could not formulate an instance which would be both an instance and a refutation. We are dealing with a tautology. But it is a peculiarly significant tautology, one which underlies any effort to attribute to an object (in this case a statement of appearance) a function which that object is to possess independently of any specifiable rules for the application of its function within a domain. We might name the notion that such a function makes a nonlinguistic difference, the Fallacy of As Such; and then we might add that what leads Mr. Henle, and others of the immediacy school, to this most philosophical fallacy is by no means naïveté but necessity: For in order to explain how probabilities can conceivably be attributed to the class of factual statements considered as a whole, and so to ground evidence, statements of appearance—aside from the question of their intrinsic certainty—must be given *some* quantity of unconditional weight. Else these statements would not constitute the "key" to an explanation and the infinite regress would march on.

But let us reconsider: Have we not reached a conclusion too hastily? Does not some summation of statements of appearance into statements of likely fact occur in practice? And would not the occurrence preclude a tautological interpretation of the assumption of an evidential relation between appearance and fact?

No one can reasonably deny that statements of appearance such as "This looks red" are used to establish factual propositions. But they are so used, as a matter of fact, in context, even though that context may not be stated. There is some assumption made of an existential character. If "This looks red to me" is evidence that it is indeed red this is because I have reason to believe, for example, that I am not color-blind. And if this same red object looks to me like a house, that is because I know that my imagination never furnishes me with quite the detail I have before me now, and so on. When we "sum up" appearances in practice we do so by means of some factual hypothesis. But this is necessarily the case. For no matter how many "appears" there are in my premises logic will not grant me one solitary "is" for my conclusion unless somewhere

I have such an "is" in my premises. The point is trite. But the immediacy theory can not afford to ignore it, since the theory must insist that statements of appearance are intrinsically evidential.

Hence the interpretation presented here of the tautologous character of the immediacy's theory connection between fact and appearance is not and can not be invalidated by a concrete "instance." Instances presented to show the way in which appearances operate to produce evidence will exemplify rather the entry of factual assumption. But if we consider once again the nature of the immediacy theory's intent, which was theoretically to ground assertions of factual likelihoods *exclusively* upon appearance statements, we perceive that a covert tautology was indeed the only means, given the logical gap between evidence and appearance, by which the intent might be affected.

But let us assume, despite all we have said, that "This looks like iron" does have evidential value as such for "This is iron," and not through a merely significant sounding verbalism. Does not the problem, shifted to another level, still remain: how to explain evidence? We must still show *why* this connection between fact and appearance statements exists or otherwise the use of statements of appearance is no key to an explanation of probable inference but a re-posing of the problem with a qualification: How, *given appearance statements,* can factual statements be grounded? Let us again resort to Mr. Henle's article to illustrate what happens when in immediacy theory, this difficulty being felt, one seeks to explain how an answer to the question is possible.

According to Mr. Henle the basis for such an explanation is a reference to "simplicity." A "judgment of appearance," he tells us, "is also a fact to be accounted for." *Why* does this object look like a house? On *prima facie* grounds the "simplest answer" is that one is actually confronted with a house; and if such is the "simplest answer," then this answer is to be preferred to the assumption that what is seen is *only* an appearance. Therefore we can say that "judgments of appearance constitute evidence."

Let us ask, however, what *is* a "simplest answer" and why is it "simpler" to assume the truth of an appearance for *any* given case rather than the reverse and why, even if this procedure is indeed "simpler," should the procedure be preferred? It is hard to see how Mr. Henle could answer such a conjunctive nest of questions. Of course a meaning could be assigned to "simplicity," and a justification: one might say with respect to specific empirical contexts that one would be logically bound to disbelieve too much were one to doubt this specific judgment of appearance. But if we wish, as Mr. Henle's position requires, to make the truth value of statements

of appearance in some degree independent of judgments of fact, such a line of treatment is immediately precluded. The difficulty may be generalized: If factual evidence is to be grounded upon statements of appearance, then either "simplicity" (or any other concept which explains this procedure) is a description of appearance or reducible to one, in which case it only postpones the explanation of the evidential relation of statements of appearance to statements of fact; or "simplicity" is not a statement of appearance or reducible to one or more, in which case its function as an empirically based rule of evidence needs "ultimately" to be explained by the validity of statements of appearance.

"Simplicity," then, is inexplicable in Mr. Henle's system. More significantly, even if it be true that appearance statements are as such the necessary grounds for factual statements, the sense in which they are that can not be stated within the assumptions of the immediacy theory. The grounds of evidence remain unexplained. And the moral of the story seems to be that *if* one starts with appearances one is stuck with them; unless one makes an entirely non-evidential leap to existence and has the philosophical grace to call the jump by its right name—"faith," animal or otherwise.

So much for the first major contention of the immediacy theory, that one can proceed evidentially from statement of appearance to fact. Now we wish no longer to assume that we know what is meant by the *"evidential certainty"* of statements of appearance. We come to the second major contention of the immediacy theory. Mr. Henle states it as follows: "Since they (statements of appearance) make claims only about an immediate appearance, their evidence may be given completely and all at once with a resulting evidential certainty."

"This looks like a parrot," instances Mr. Henle. One look is enough; it either looks like a parrot or it does not. If the bird looks like a parrot it looks like a parrot. But it is presumed that no one would wish to deny that if an object looks like a parrot to one, then so it does. Since, however, a tautology establishes nothing, the crucial question may be formulated as follows: Does the parrot look to one the way one *says* it does? Now if Mr. Henle's contention of inherent certainty means anything, it must therefore mean that there is no way of verifying any answer to our formulated question in *re* the parrot. Further inquiry into the truth of statements of appearance is blocked. We shall assume that this is what is implied by speaking of evidence "given completely and all at once."

In order, then, to contradict the second contention of the immediacy theory, we suggest that if I say "This looks to me like a par-

rot" it may be empirically established that "This does not look to me like a parrot." Note that it is *not* being asserted that *looking like a parrot* may in any sense be refuted. Looking like a parrot is a state of affairs neither provable nor disprovable, with either certainty *or* probability, and logically in a class with sealing wax, cabbages, and kings. But, we are asserting, a state of affairs is *discoverable*. Therefore either the argument is about the sentence "This looks to me like a parrot" or there is no argument—there is simply the bald confusion of calling the states of affairs we call "appearances" by a name predicable only of statements, namely, "certain."

Let us assume that there is an argument. Then we are led to assert that if the object of which it was said "This looks like a parrot" turns out actually not to be a parrot, that discovery may be in point of fact useful, although not sufficient evidence, for questioning the truth value of the quoted expression; and that in point of fact the discovery may constitute *prima facie* grounds for establishing the legitimacy of further inquiry into the truth of the expression. For let us suppose that the object which someone asserts looked to him like a parrot turns out to be a canary. What, metaphysical sophistication aside, would we be likely to say about the person who made the statement? Either, one suspects, that he is half-blind, that he is a downright liar, or that he has no idea of what a parrot is. Such, roughly, are in fact the truth conditions for the sentence. If we can treat those conditions empirically we can establish the probable truth or falsity of the contention.

Thus: If our bird fancier's eyes are discovered bad, then we have acquired evidence that his statement is a true one. We have investigated the statement of appearance and found it holding. Not with certainty, of course; the statement that this looked like a parrot might be false even though he had bad eyes. Suppose, however, there is nothing wrong with the man's eyes. We may say perhaps he is a liar. Is there no way of pricking the deceit? Not at all. We may discover that on another occasion he has exhibited a profound awareness of the difference between parrots and canaries (as, for example, when we learn that he has recently gone to a pet shop and bought a canary rather than a parrot because, as he explained it, the canary was cheaper). So once again the evidence for the statement of appearance turns out not to be given "complete and all at once." Suppose, lastly, that the man neither lies nor suffers from impaired vision. Ah, we say, he doesn't know the meaning of the word "parrot"; and once again the status of appearance statements turns out anything but unique. For aside from verifying in the obvious ways that the man who says "This

is a parrot" about a canary does not know "parrot's" connotation (in which case the truth value of his statements would be either negative or indeterminate, depending upon whether you wished to verify his sentence or his meaning), we may observe that even for a statement of appearance whether or not a given object is a member of a class connoted by a term is, to the extent the term is not ambiguous, a pre-eminently empirical problem. The effort to determine whether an object actually looks like a parrot or a canary differs in difficulty but not in kind from the biologist's effort to determine whether a simple organism is (that is, has the properties of) a member of the plant or animal kingdoms.

There seems no reason, then, to believe that the conditions for verifying a claim about a "datum" of immediate experience vary in logical character from the procedures involved in verifying a claim about any other subject-matter—quite the contrary, if our illustratory analysis is correct. Is this conclusion altered by Mr. Henle's observation, typical of the immediacy theory, that statements of appearance "can be certain just because they make no predictions and are not liable to refutation by the course of subsequent experience"?

But there is a sense in which any statement about some particular ocurrence stands in the same case and yet we do not consider these other kinds of statements inherently immune to investigation. If statements of appearance make no obvious predictions, neither, for example, do some statements in history. Suppose I say that Caesar crossed the Rubicon, or that this color is red. I "predict" nothing in either case. In both cases unless my intent is tautologous, evidence may and must be offered, documentary perhaps in the first case and of the sort suggested in our tale of the parrot and the canary in the second. The situation with respect to the supposed impossibility of "refutation by the course of subsequent experience" is resolved similarly. Obviously Caesar crossed the Rubicon once and for all (*if* he crossed it) and obviously this will have looked red to me once and for all (*if* it did indeed look red). But whether Caesar did or did not cross his river or I did or did not find something looking red to me involves a nest of consequences which may be investigated. "If Caesar did cross the Rubicon, then one might expect such and such." "If this looked red, then this and that might be said about me." One might always deny such consequents. The sentences are upon a logical level, particular in intent, and open to inquiry.

Hence statements of appearance, if they are conceived of as statements, are not evidentially certain but more or less probable. But even if we suppose that they are "certain," an additional

difficulty crops up: *If* statements of appearance are "certain," by what logical mechanism can we derive *probabilities*? Assume, for example, that there is no questioning by any of the means we have outlined, the statement "This looks to me like a parrot." How does the impossibility of further examination of that statement make possible the further assertion of a determinate probability to the statement "This *is* a parrot"? The problem of probability of events has not been solved; it has been shifted to the problem of the relation between what may well be incommensurables—"certainty" and factual "probability"—and hence complicated. And so long as we distinguish between a formal and an empirical science it is hard to see how the aforementioned incommensurability can be overcome, even in the context of epistemology.

One could go on exhibiting difficulties in attributing evidential certainty to statements of appearance, not the least of which would be the difficulty in comprehending how the specifically *empirical* import of such certain statements might be grasped. But enough of such argumentation. To conclude our cursory examination of the immediacy theory's central theses, let us rather ask why statements of appearance instead of some other class of statements were elected for the dubious rôle described.

Very likely, an adequate explanation would be a composite of many hypotheses. In part, perhaps, we may trace that curious status given to statements of appearance to a lingering dualism which implies that the mental happenings those statements represent are private affairs independent of public verification. Then clearly they must be either certain or arbitrary; but it is seen "intuitively" that they are not arbitrary. Leaving this position to its fate, the fact remains that we often find it harder to get at what have been named "mental facts" than at "physical facts," with the consequence that in some contexts the tendency to take the former at their face value tends to be practically sanctioned. But our analysis suggests that at least an equally important factor in explaining the special status assigned to statements of appearance, is the persistence of the often unexpressed assumption that knowledge needs must possess the character of a closed system, sufficient unto itself, justified in the long run as a mathematical system is justified, by its first principles. Now if knowledge is to have this character, the question must arise, where are the appropriate first principles to be found? Mathematics has been discovered to say nothing in particular; and all statements about something in particular have been discovered fallible and dependent upon other possible statements for their truth value. Only one resort remains, resort to statements correlated to mental facts—"terminating judgments,"

"protocol statements," "statements of appearance"—which alone seem immune to doubt and factually true; and these have become the last refuge of the synthetic judgment *a priori*.

II

We have, so far, left the Atlas of evidence standing not even upon appearances but upon thin air. For unless there exist other kinds of statements than logical statements, factual statements, and that peculiar hybrid, the "statement of appearance," we can not ground the infinite regress of evidence. Are we compelled to admit that warranted assertions are unintelligible? This seems hard. Perhaps only the suggestion of an alternative to such theories as the immediacy theory will lighten the pressure to resolve the unresolvable. It is time then to discard the Atlas metaphor, and to sketch the general character of an hypothesis which will make the weight of evidence comprehensible.

(1) Previous considerations, and some small reflection upon them, suggest that evidence can not be accounted for evidentially within the system of evidence—and that this is not the same thing as to say that evidence can not be accounted for. There is an obvious sense in which one can ask for and secure an explanation of why evidence works, even when we talk about evidence as a whole. For the ground of evidence as a whole rests upon the facts of what man is and what he does, upon an empirical analysis of man, society, and nature in their interfunctionings. One is asking how knowledge fits into such a picture of adaptation and readaptation. Or, to put it in more or less philosophical language, knowledge is always contingent, contingent upon the non-logical, the unjustified fact, since knowledge too is a fact in the world; so that the "reason" for knowledge must be found in the relation of knowledge to other facts. When, then, we ignore this character of knowledge and ask what is the evidence for evidence, the evidence that makes evidence evidential, it is hardly surprising that we secure a paradox: Our question precludes an answer. For any such answer would either be evidentially grounded and therefore require grounding in its turn; or not so grounded, and hence pointless to accept.

The implications of these far from novel assertions cover considerable controversy. From those assertions, for example, one is led to suspect that efforts to explain *why* the principle of induction works, rest upon a radical misunderstanding: the misunderstanding that, because evidence is relevant in any specific context for the fairness of a sample, it follows that evidence is possible or necessary for the class of all possible samples not misleading the investigator. But "induction" is meaningful in context, not out of

all possible context; the "principle of induction" is no major premise for all possible knowledge such that it must be proven before the knowledge which it affords when combined with minor premises, can be validated. Properly interpreted, therefore, the "principle of induction" must be a characteristic of the empirical method based on observation of empirical method—the principle states that for any given empirical context the truth value of its propositions will depend upon the evidence for the fairness of certain samples, and that for any *specific context,* if we choose to play the game of science, such evidence is to be sought.

In general, then, we may assert that the ultimate justification of the method of science and of all its aspects derives from a set of drives and responses which science satisfies, in the sense that those drives and responses to drives and environmental compulsions operate successfully, are satisfied and re-inforced, when the methods of science are employed; and that to ask *why* this should be so is to raise a group of specific empirical problems in physiology, psychology, and sociology, all of which presuppose the legitimacy of the knowledge which some people aim to establish en masse—or else to ask why is to raise no question at all.

(2) We can talk, then, only specifically about evidence or knowledge in general. What, now, do our previous considerations lead us to assert generally about the specific functionings of evidence? More concretely, if we can not postulate absolute first principles to explain the corpus, or any part of the corpus, of science, how can any science actually gather for its specific assertions "increments of probability"?

The overall and rather simple perspective we should like to suggest in meeting the problem, is that we may regard "increments of probability" as significant through, and only through, their logical genesis in certain kinds of context; and hence that meaningfully to question how any probability may be adduced is to question how that probability arises in the logic of specific inquiry. To illustrate generally what is involved in ascribing a probability within a context, let us try to interpret the evidential rôle of statements of appearance in a simple case. Immediacy theory, of course, tries to explain such functions of statements of appearance by attributing to those statements a truth weight as such.

Suppose in order to determine the chemical character of a solution we perform a small experiment with litmus paper. The paper changes color. "Ah," I say, "This paper is red. The solution must not be alkaline but acid." What is the evidence, then, for the acidity of the solution? That litmus paper dye turns red in the presence of acid and this paper so turned. But if we are con-

sistent with the general character of factual evidence we must also say that the evidence for the assertion "This is acid" is *not* equal to 1. When we ask after the reason why in our present case the evidence after our experiment still remains imperfect, we come across the apparently unique status of appearance statements. For if in chemistry the discovery "red" enables us to say "This is *probably* acid," the conclusion follows in that form not because of the dubiety of the judgment "This is red" but because of the character of other relevant propositions such as generalizations about dyes, statements about special conditions, and so on. "This is red" has behaved as a protocol statement. Without that judgment no assertion of fact would be possible; and if the evidence for that factual assertion stands incomplete that is not because of the character of the protocol sentence.

Now the problem of grounding probable judgments is identical in form with the problem of determining the status of the appearance statement "This is red" in our example. Since the possibility of this statement's having truth value in itself has been dismissed, then unless there are some other alternatives, we must define the status of appearance statements in terms of the operational significance of such statements; and be prepared for the further possibility that other kinds of statements might fulfill under other circumstances the same rôle.

Operationally, then, in the context of our experiment, what is the status of "This is red"? Most strikingly, its truth value is not being questioned, but taken for granted when in the concrete case we try to assess the likelihood of the solution's being acid. But the truth value of "This paper is blue," had that statement arisen in the experiment, would similarly have been unquestioned in the present case. Clearly, then, underlying the experiment, and enabling us to assess the likelihood of the judgment "This is acid," has been a rule of procedure (Rule 1): "For this kind of experiment any statement of appearance which the experimenter is induced to make (This looks red to me) may be taken as a statement of fact (This paper is indeed red)."

The "rule of procedure" has given us a starting place in our evaluation of the evidence. Yet if we ask if this rule holds for all possible experiments, we note that it holds only on those occasions when there is reason to believe that statements of appearance are reliable. The rule of procedure is justified by a factual prediction; hence it may be discredited in a context logically prior to the context in which it states what may or may not be assumed.

But we may better understand the nature of such rules, and their function in the accumulation of probability increments, if we

ask what happens when a given rule of procedure does not hold. Let us assume, to continue our example of the litmus paper, that the statement "This is red" meant merely that this paper looked red to me and left open the question whether or not it was red. Occasions may readily be conceived when such would be the case; in all of them Rule 1 would no longer be applicable. Now my dubiety becomes a positive incentive to further investigation. I would need to discover an acceptable rule of procedure lest I never determine whether my solution is acid or alkaline. Very likely I would ask someone else, or several people, if a good deal depended on the answer to my question, to check the paper; and presupposed in my evaluation of the solution, after I had resorted to these people, would be the following Rule (2): "If so many people under such and such conditions say this paper looks to them as though it has a certain color, then in our experiment we may consider that it has this color." But this rule has no more *a priori* certainty than the preceding. We must be able to show that if we follow it we shall reach true conclusions. Of course we would not ordinarily bother to justify this second rule. But *unless* we could, we could not make use of it. *If* it was found necesary to do so, as a consequence no doubt of some snarl in our experimentation, we would end with reference to a context prior to the one we were dealing in and with another rule of procedure. Thus the factual reference might be to the putative fact that for the given culture in which the experiment occurs men do not lie without good reason; and then the rule of procedure (3) becomes that if men do not lie without good reason then when they say "This is red" this may be assumed to be red. But the development of rules of procedure for fixing on evidence, and of their justifications, for our simple experiment might even take a line independent of any group's report of "red." Through the use of appropriate instruments and hypotheses our judgment of acidity for the solution might be sanctioned through a reference to the physical properties of light. So that "This is red" might be an assumable statement in terms of the rules of procedure of the science of physics. We need not multiply illustrations further. These rules of procedure, which enable us to fix upon beginnings in the evaluation of evidence, may be arranged in a series from 1 to n; and there may be n such series for any assumption upon which evidence in some context is grounded.

We have, then, derived the methodological equivalent of the "certainty" which philosophers have felt necessary to attribute, with subsequent confusion, to first principles in themselves. "Certainty," it has turned out, is procedural in the empirical sciences, a functionally justified taken-for-grantedness. Further, "cer-

tainty'' so interpreted is a term in the metalanguage of science and does not exist in the object-language of any science precisely because the rules for its use, which affirm that in such and such a context we need not inquire into a given class of statements, depend upon truth statements of contexts prior to the context in which the ''certain'' statements appear. How, then, are Mr. Henle's increments of probability possible without infinite regress? Only a very general kind of answer is possible here, but only a very general one is called for. They are possible through the rules of procedure, stated or not, which hold within a science, or any context of that science, at a given time; and which are altered through the expansion of the science itself and of the whole corpus of knowledge, whereupon these rules themselves become objects of inquiry. It is these contextually determined and tentative (in the long run) rules which snap the infinite regress by fulfilling the *function,* though not the character, of absolute first principles, for specific contexts.

And as a consequence, no given ''increment of probability'' can be interpreted as possessing an absolute meaning true for all contexts, unless the evidential rules of procedure are identical for all contexts. This, as we have seen, does not prevent evidential increments from functioning usefully in the contexts wherein they *are* defined; and the hypothesis possesses definite advantages. By means of it we can understand the difficulty of comparing the evidential weights of any two propositions drawn from radically distinct sciences such as physics and history. So, too, within the social sciences, we can understand why on occasion we can not assess to any significant degree the weight of evidence in favor of one proposition or another; and why different scientists may differently evaluate the same ''evidence.'' Evidential rules of procedure, properly justified, have for the most part not been attained and agreed upon.

One major point remains to be cleared in conjunction with our suggested alternative hypothesis to the immediacy theory. The point has been implicit in our discusssion; now let us state it outright: The evidential status of statements of appearance, as it was observed in the litmus paper experiment, may be, and is, assumed by *other* kinds of statements. For that status was determined irrespective of the peculiar properties of the statement of appearance and in terms of contextual needs. But some contexts may need to assume not statements of appearance, but other kinds of statement of fact. For example, in historical analysis one of the crucial rules of procedure might be a rule of analogy. Then it would be assumed that with respect to certain designated forms of activity human conduct exhibits constancy; and as a rule of procedure it would follow that

if any hypothesis demands that human activity occur in forms contrary to those designated (as, for example, that men can do without food) then that hypothesis may be considered false. Examples, of course, could be multiplied, and would certainly have to be refined beyond the formulations we have offered. But for all such examples is it the case that they will derive their *ultimate* justification from Rules 1 and 2? So in part we may interpret the hypothesis of physicalism. The preceding analysis suggests, although not conclusively, that while the justification of a rule of procedure such as the rule of analogy might indeed lead back to Rules 1 and 2, those rules might in turn under given circumstances be subject to the intervention of other rules. Evidence, our analysis suggests, goes in circles.

In effect this means that the assumption of truth is for no proposition whatever immune to investigation. We have already examined the contingencies under which we may legitimately move from "This looks red to me" to "This is red." The inquiry of science presses still further. When in Part I we questioned whether my assertion "This looks red to me" means the same as "It is true that this looks red to me," we were engaged in no mere hair splitting. Thus in the science or art of psychoanalysis, techniques have been developed to cast light upon the most—precisely the most—sincere introspections. In other words I am quite capable of thinking "This looks red to me" and under certain conditions of deceiving myself in the matter. And the professional observer of such phenomena will frequently subject himself to therapeutic measures in order to insure in some degree that his own immediate observations may be relied upon.

In sum, then: Statements of appearance, in so far as they operate in conjunction with certain rules of procedure to grant us evidence, operate as true statements, as statements with existential import which is not questioned; and in so far as they appear in a science without such an assumption, and they do so appear, they operate as incitements to investigation or as appearance-hypotheses to be tested in terms of various rules of evidential procedure. And any class of statements, not only statements of appearance, may operate in this dual rôle of evidential assumption and hypothesis for inquiry, depending upon the character of the context in which they appear. To carry through Peirce's metaphor, no statement may legitimately in the enterprise of science "block the way of inquiry"; but any statement may act as a paving stone in that "way."

There is an alternative, therefore, to the Atlas metaphor. That alternative, barely suggested here, consists in a functional analysis of the general character and specific operation of evidence. It is, of

course, hardly conceived that the few remarks here in Part 2 begin to settle the problems of knowledge and probability. They do indicate, however scantily, what knowledge and evidence are like for human beings: a process without beginning or end, constantly *in media re*, with its truth values and evidential values sanctioned not by ideas in the mind of God or of man, but by the exigencies of action.

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MODERN LOGIC AND THE SYNTHETIC *A PRIORI*

THE view that all *a priori* truths are analytic has been very widely accepted in recent years. Proposed long ago by Leibniz, this theory has derived much of its strength from the modern development of logic, and has been adopted by positivists and some naturalists. In this note I want to suggest that far from strengthening this view, recent developments in logical theory have refuted it, and necessitate either its careful reformulation or its abandonment altogether.

The notion of analyticity has undergone some change since Kant described it in terms applicable only to subject-predicate propositions. According to current definition, a statement is analytic when its truth or validity follows from the syntactical or grammatical rules governing the language in which it is expressed. Here syntax is conceived quite generously, of course, as dealing not merely with splitting infinitives or the like, but with definitions and rules of inference as well. Those who accept the analytic theory of *a priori* knowledge are committed to the view that any proposition that is *a priori* true follows from the rules of the language in which it is expressed. They need not hold that they can actually prove or derive any given *a priori* proposition from the rules of the language in which it is expressed; but they must hold that any *a priori* proposition is derivable from those rules, in principle. Hence if the analytic theory of *a priori* knowledge is true, any non-empirical or non-inductive general proposition is decidable on the basis of the syntactical rules of the language in which it is expressed. We may express this contrapositively as follows: if there is any non-empirical or non-inductive general proposition which is not decidable on the basis of the syntactical rules of the language in which it is expressed, then the analytic theory of *a priori* knowledge is false. If there are *a priori* truths not derivable from the rules of the language, then there are synthetic *a priori* propositions.

Since the publication of *Principia Mathematica* by Russell and Whitehead, considerable progress has been made in logic. Subsequent developments have centered about two closely related questions. The first question dealt with the completeness of formal systems. Given a formal deductive system (like *Principia*) in which all propositions of mathematics can be expressed, the question arises: can *all* mathematics be proved in it? A system is complete if every mathematical (i.e., non-inductive or non-empirical) sentence statable within it is decidable (provable or refutable) on the basis of the rules of the system. The second question has to do with consistency. Is there any system adequate for mathematics that is consistent? Known contradictions may not have appeared in it, but what is desired is some kind of guarantee that *no* contradiction can ever be derived in it, that is, that it is *consistent*.

For a while encouraging progress was made in these matters. Certain limited systems, which could account for only parts of logic, were shown to be complete within their limited domains, and consistent in themselves. Investigators worked hard to extend such results to systems designed to compass the whole of mathematics. Finally, in 1931, a young Austrian mathematical logician answered both questions—but in the negative. Gödel proved that no known system at all adequate for mathematics was complete, and that no such known system could be proved consistent. These came out as closely related: for the essential incompleteness of any known system was shown by proving that there was a certain proposition that could not be decided in the system, and that certain propositions asserted *that* the system was consistent! Moreover, the method of Gödel's proof indicated that it could more or less easily be applied to *any* system in which mathematics could be stated, so that in *any* such system, no matter how many axioms or rules were given or assumed in its structure, if it were consistent, an *undecidable* proposition could be formulated within it. The Gödel incompleteness result is this. Given any reasonably rich language, there is a non-empirical, non-inductive proposition expressible within it which is not decidable on the basis of the syntactical rules of that language.

The implication of this result for the philosophical problem of *a priori* knowledge is clear. We have seen that if there is any non-empirical or non-inductive general proposition which is not decidable on the basis of the syntactical rules of the language in which it is expressed, then the analytic theory of *a priori* knowledge is false. The inference is obvious. The analytic theory of *a priori* knowledge is false. And this amounts to saying that there are synthetic *a priori* propositions. This is a philosophical consequence of considerable importance.

There may be some who consider the question of *a priori* knowledge settled. There may be some who feel the analytic view to be the definitive answer. To the argument of this note they may be inclined to make any of a number of replies. They may be inclined to reject the Gödel result. But this would be literally to abandon logic in favor of prejudice. Or they may hold the "error" to lie in the received definition of "analytic." They might attempt to define "analytic" in such a way as not to involve any reference to language rules. Of course such a redefinition would make the Gödel result irrelevant to the issue. But such a view, whatever it might be, would be completely different from the analytic view discussed here. Or it might be argued that the undecidable sentence, shown not to be analytic in the sense here understood, is not *a priori*. Yet the consistency of a set of postulates is clearly not something that could be established inductively or empirically. It is hard to see any possibility of success along this line. Or finally it might be claimed that the undecidable formula is not really a proposition. Were it to be decided, it might be said, it would then become meaningful, but until a decision has been reached it is without significance. This would be like saying, though, that no question can be understood until it has been answered. This would be a *very* curious view indeed. Moreover it would seem to preclude the possibility of error. For if the answer determines the meaning of the question, would it not determine the question to mean something to which it is the correct answer? And if there is to be some element of significance to a question which would enable us to determine whether a proposed answer is correct, or even relevant, then it is a mistake to say that the question's meaning is determined by the answer. To make this last suggestion at all plausible would require a complete and thorough re-examination of the whole nature of meaning and significance. Perhaps an intelligible system could be worked out in which significance would depend upon decidability, and in which "analytic" was plausibly defined within that context. If and when it is, it will have to be judged upon its merits.

In conclusion, I should make one thing clear. It is not my claim to have answered the question: "How is *a priori* knowledge possible?" I have attempted only to show that as conceived today, the analytic view is untenable. Reformulations may possibly render it more nearly acceptable. But until this is done, or until a more satisfactory theory is devised to explain synthetic *a priori* knowledge, the question of how *a priori* knowledge is possible remains one of the most urgent problems confronting philosophers today.

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BOOK REVIEW

The Philosophy of Francis Bacon. FULTON H. ANDERSON. Chicago: University of Chicago Press. 1948. vii + 312 pp. $4.00.

Dissatisfied with the accounts of Francis Bacon's philosophy hitherto published, because they have neglected many of his writings and have been vitiated by interests and preconceptions extraneous to Bacon's own thought, Professor Anderson has undertaken to present the intrinsic content and organic development of Bacon's philosophy through a patient exegesis of his thirty odd philosophical works. "The exposition," he promises, "will be limited to what our author has to say" (p. 2). This promise is fully redeemed by the book, which accomplishes the remarkable feat of compressing the content of Bacon's complete works in philosophy—fifteen volumes in the Spedding, Ellis, and Heath edition—into three hundred compact pages, with a minimum of distortion and a maximum retention of Bacon's language and manner of expression. So complete is this coverage that it is hard to find any passages of philosophical importance, in Bacon's original treatises, which are not closely paraphrased on one or another of the pages of Anderson's book. The concentrated wealth of material makes it far from easy reading; but its purpose is achieved with extraordinary success.

Of the twenty-five chapters, all but the last are devoted to the task of presenting a thoroughly objective statement of the facts about Bacon's philosophical activities, and of the content of his writings. The first three chapters sketch his life, trace the story of his efforts to gain support for the projected reform of learning, and enumerate and classify his writings in terms of their chronology, character, and purpose. The expository part of the book covers twenty-one chapters, seven of which deal with the earlier expressions of Bacon's doctrine, while the other fourteen give a systematic exposition of the works designed to constitute parts of the Great Instauration. Bacon's distinctive philosophic ideas took shape early in his career, and were developed with a steadfast consistency of purpose and conviction throughout his life. His early espousal of an atomistic materialism, manifested in the *Temporis partus masculus,* the *De sapientia veterum,* the *Cogitationes de natura rerum,* the *Descriptio globi intellectualis,* and *Thema coeli,* is regarded by Anderson as the point of departure for Bacon's whole philosophy and method. Much emphasis is placed on his segregation of revealed religious dogma from the scope of natural knowledge. "Bacon is unable to see in the human creature any natural faculty or faculties of discerning either the inner thoughts or the nature of God" (p. 53). "It is Bacon's avowed intention to merge meta-

physics with physics and to promulgate a materialistic philosophy" (p. 48).

In Chapter Six the beginnings of Bacon's conception of a "new organon" are traced from the first intimations given in *Temporis partus masculus* and the *De interpretatione naturae prooemium,* to the more explicit formulations of the *Valerius Terminus* of 1603 and the *Partis Instaurationis secundae delineatio et argumentum* of 1607. These earlier statements cast light on the meaning of Baconian induction, and show that it was not conceived as a method for establishing purely factual generalizations from instances, but as a means of eliciting the explanatory "middle term" yielding knowledge of the fact through its universal principle or immanent cause. Though Bacon criticizes Aristotle for reasoning about words rather than things, he adheres to the Aristotelian notion of science as knowledge of the reasoned fact, achieved through a universal and causal "middle" which is a real definition or *differentia* of the material subject of inquiry. Bacon's complaint is that "Aristotle provides no directions in his Organon for the eliciting from the experience of particulars the notion represented by this middle term. Bacon is aware of the problem of making good what he considers this fundamental deficiency in Aristotle's logic . . ." (p. 90). The "new organon" can be understood as an analogue of Aristotle's *Topics;* just as the *Topics* gives rules for the "invention" of arguments or middle terms, drawn from the store of previously acquired knowledge, by which problematic conclusions can be established or refuted, so Bacon's "new organon" gives rules for discovering such "arguments" or middle terms within the book of Nature instead of in the thesaurus of language and memory. Such "middles" are the Baconian "forms," which define the true natures of things, and which Bacon regards as real and essential *differentiae.* In the *Advancement of Learning,* written in 1605, Bacon gives as a "true and perfect" axiom of knowledge the rule "that *another nature be discovered which is convertible with the given nature, and yet is a limitation of a more general nature, as of a true and real genus*" (p. 160). Anderson tends to minimize the affinities between Bacon's metaphysics and method, and that of Aristotle; yet his faithful exposition of Bacon's own declarations suggests, at least to this reviewer, an illuminating connection between them.

Chapters Seven and Eight deal with the well known analysis of the "vanities and errors" of learning, and with the doctrine of "idols or false phantoms." The four following chapters draw materials from all of Bacon's writings to bring together his criticisms of pre-Aristotelian and post-Aristotelian philosophies, the critique of Aristotle himself being reserved for separate treatment

in Chapters 16–17. Anderson notes that in his earliest works Bacon shows only slight familiarity with the ancient philosophers, and that he became progressively more conversant with their doctrines and more respectful of their intelligence and insight. Of interest is the utterly scornful dismissal of Ramus, in the early *Temporis partus masculus,* which Anderson paraphrases as follows:

> We have no traffic with this modern lurking-hole of ignorance, with this insect destructive of letters, the progenitor of handbooks, who constricts things with the fetters of his method and compendium. Ramus binds together empty and arid trifles. The more ancient Aquinas, Scotus, and their associates have fashioned a variety of things when their matter has been nonexistent; but this man produces the nonexistent out of existent subjects. He is indeed worse than the Sophists. [P. 107.]

In his later works Bacon conceded some virtue in Ramus's "rule of truth" and "rule of prudence"—namely, his principle that a genuine axiom should be a commensurately universal proposition; but he never ceased to condemn Ramus's conception of "method" as the passage from the general to the special by dichotomous division. Plato is praised for conceiving forms as true objects of knowledge, but he is castigated for separating them from matter; he was "the theologian out of his senses," who "turned the human mind . . . away from the observation of things and in upon itself and instructed it to ponder, under the name of contemplation, blind idols" (p. 107). Galen was a "deserter of experience and the vainest of pretenders" (*ibid.*), and Paracelsus and the "chemists" are even worse than Galen: "By mixing the divine with the natural, the profane with the sacred, the heretical with the fabulous, you, O sacrilegious imposter! have polluted truth, both human and divine" (p. 107). Bacon's opinions of Gilbert, Copernicus, Galileo, Telesio, and Paracelsus are recited in Chapter Twelve: he finds little of value in their work, though he concedes that Telesio was on the right track. Ramon Lull is dismissed as a charlatan, whose art was "a method of imposture . . . to give men countenance that those which use the terms might be thought to understand the art" (p. 135).

The constructive exposition of Bacon's philosophy, based principally on the works designed for the Great Instauration, is undertaken in Chapters 13–24. Two chapters expound Bacon's scheme of classification of sciences, as developed in the *Advancement of Learning* and its Latin counterpart, the *De augmentis scientiarum.* Anderson gives particular attention to the segregation of "divine philosophy" from "natural philosophy," and to Bacon's treatment of "metaphysique" as the causal and explanatory branch of physics. He insists that the notion of "form" or of "formal cause," with

which Baconian metaphysics is primarily concerned, has nothing in common with Aristotle's formal cause (p. 157). For Bacon, "matter is an actual existential thing; it is not an unknowable substrate . . .," and form "is not to be interpreted teleologically, either as an end achieved in activity or as a terminus marking a significant stage in process but as a real existential thing, efficient in action, and self-sustaining" (p. 157). Yet if form and matter are inseparable, as Bacon holds, it would seem that neither of them alone, but only formed matter, would be a "real existential thing." Perhaps the Baconian form is closer to the medieval Augustinian notion of a "seminal reason" than to Aristotle's formal cause, being not so much a determination of matter expressed by a defining formula, as an immanent agency or operative idea manifested in the actions and appearances of concrete things. Anderson does not consider the possible affinity between Bacon's "metaphysics of forms" and the Augustinian tradition; he is more concerned to stress the difference between Bacon's doctrines and those of earlier philosophies than to discover bonds of continuity. This same emphasis on difference and discontinuity is made in the two chapters (16 and 17) dealing with Bacon's criticism of Aristotelian logic and philosophy of nature.

Chapters Eighteen to Twenty-four contain (1) a systematic exposition of Bacon's method of induction and interpretation, as developed in the second book of the *Novum Organum,* (2) a summary of the numerous writings on "natural history" which Bacon designed for the third part of his Great Instauration, and (3) a brief treatment of the projected, but mostly unwritten, fourth, fifth, and sixth parts of the *Instauratio* which Bacon named "The Ladder of the Intellect," "Anticipations of the New Philosophy," and "The New Philosophy." Aside from the *Novum Organum,* the *Parasceve ad historiam naturalem et experimentalem* is expounded in detail, but the treatises in which Bacon sought to assemble factual data for his "natural histories," such as the *Sylva sylvarum, Historia ventorum,* and *Historia vitae et mortis,* are treated in summary fashion.

The "new philosophy" which Bacon visualized, and which would, when achieved by coming generations through use of the "new organon," constitute the sixth and final part of the Great Instauration, is characterized by Anderson as "a unified knowledge, inductively discovered, of God, nature, and man. It is designed to be a thoroughly materialistic philosophy, which construes nature, including man, in terms of the virtues, structures, and motions of body. It does not attempt to deal with that part of man which is made in the Divine Image, or with the nature, being, and will of God. These subjects it consigns to revealed theology, while it in-

cludes within its orbit only so much of God's power and skill as is made manifest in his creatures" (p. 289).

This new philosophy "will discover those universal natures from whose combinations, even as a language is composed of letters, all things in the created universe, which bear the Creator's stamp, are composed" (p. 290). Its method is that of an ordered dialectical inquiry, regulated by topics and rules; this dialogue is not, however, between man and man, as for Plato, nor between man and God, as for St. Augustine, but it is between man and Nature.

> All along the way inquiry proceeds according to Topics, or questions put to nature according to Prenotions; and throughout its course, even from the beginning, there is a delimitation of the infinity of particulars by classification. Investigation brings under universals more and more particulars, ascends to higher and higher generalities of axiom, until finally it arrives at the apex of knowledge, the summary law of nature, the Great Form or Fabric of the Universe, the "first cause" within nature. [P. 290.]

The significance of Bacon's philosophy is briefly summarized in the final chapter of Professor Anderson's book, largely in terms of its influence on subsequent English thought. The points made in this chapter were succinctly stated by the author at the very beginning of his study, in these terms:

> And, finally, we shall attempt by way of conclusion, to show that Bacon's philosophy marks the parting of the ways between ancient and modern thought. His legion of followers are led in a new way through (1) his attack on "learning"; (2) his separation of philosophy from various types of theology; and (3) his philosophical materialism which is based on (a) a new logic, (b) a "modern" interpretation of nature, and (c) the identification of metaphysics with generalized physics. [P. 2.]

On the whole, Anderson's faithful and thorough exposition of Bacon's writings confirms the claim that these are the significant features of his work, as they were taken to be by the legion of Bacon enthusiasts which appeared in the later seventeenth century in England. Institutions like the Royal Society, and the ultimate reform of studies at the universities, were in no small measure the outcome of Bacon's criticism of "learning." That Bacon was *the* "first of the moderns," or that his separation of religion from philosophy, or his philosophical naturalism, were original and unprecedented, is much more questionable. Certainly many before him had criticized and attacked the scholastic educational system; quite apart from the humanist critics of the Rennaissance, we have only to remember Roger Bacon back in the thirteenth century, whose discussion of the causes of human error and ignorance, in his *Opus maius*, has startling resemblances to Francis Bacon's doctrine of "idols."

Again, the separation of religious doctrine from natural knowledge was far from new; Bacon's position is scarcely more radical than that of Thomas Aquinas, and distinctly less so than that of William of Ockham. Even in Bacon's own day, despite the prevalence of religious philosophies at Cambridge, there were others who shared his views on this subject. Let me quote Thomas Wilson, who wrote a logic in English in 1567, concluding it with this bit of advice:

> And because some heddes are verie bolde to enter farther than witte can reache, or els have a minde vainly to question of thynges not needefull: I thought it not amisse to set forth Aristotles mynde, as touchyng thynges that should not bee brought in question. . . . And first, no man ought to argue of these thynges, wherein if any one put doubt, he deserveth punishement. As to reason whether there be a God or no. . . . Thirdlie, it is evill to reason of those thinges, which can not be knowne by mannes witte. As to know what God the Father is in persone, what the holie Ghost is, how thei sitte and are placed in heaven, or of what makyng the soule of man is. [*The Rule of Reason . . . by Thomas Wilson. A.D. 1567; Imprinted at London . . . 1580.*]

Finally, it may well strike some readers that Bacon's "philosophical materialism," and his conception of metaphysics as "interpretation of nature" through true formal causes, are less "modern" than Professor Anderson believes. Bacon's material atoms are far from inert, and are endowed with properties which seem somewhat animistic, if not indeed teleological; they are said by Bacon to possess not only shape, size, location, and motion, but "resistance (*antitypia*), appetite . . . and emanation" (p. 141). If Bacon's naturalism was "mechanistic," as Anderson affirms (p. 303), his mechanism was different from the mathematical physics of Galileo, Descartes, or Newton. He was not a nominalist in any sense, nor, according to Anderson, was he an empiricist (p. 2). Bacon "rescued the forms in Pythagorean doctrine from purely theoretical quantity and rendered the forms of Plato materiate" (p. 302). "Bacon is a rationalist and a realist for whom particulars are constituted of universal natures and for whom the science by which they are known is the rational cognition of natures as they really are" (pp. 300–301). The label "philosophical materialism" seems one-sided, and inadequate, as a description of Bacon's theory of nature with its rich metaphysical content.

To read this study of Bacon's philosophy is to enter intimately into Bacon's own thought and language, in a manner which can scarcely fail to give the reader a deepened respect for this first English philosopher of modern times. The doctrine is revealed in its inner coherence, its amplitude of vision, and its balance of judgment, and through his doctrine Bacon himself is revealed in his

steadfast loyalty to the mission of philosophy, which he so eloquently expressed in the *De augmentis scientiarum* (*Works*, vol. IX, p. 71):

> And this is the very thing which I am preparing and labouring at with all my might—*to make the mind of man by the help of art a match for the nature of things.*

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NOTES AND NEWS

From UNESCO comes the welcome information that it is now possible, for an experimental period to the end of 1949, for scholars in many countries to purchase American books without becoming involved in the complicated currency regulations which is interfering seriously with international circulation of books. Many requests have come to the editors of this JOURNAL from European scholars for an informal exchange of books and no doubt many of our readers have likewise an interest in facilitating the international exchange of philosophical publications. The purchase of UNESCO book coupons is relatively simple and meets for the time being many of our most urgent needs in this matter. We quote from the UNESCO book coupon announcement:

The United Nations Educational, Scientific and Cultural Organization presents the Unesco Book Coupon.

With this coupon, institutions and individuals in "soft" currency countries will be able to buy books and periodicals from "hard" currency countries. . . .

In each participating country special Distributing Bodies have been appointed which will be responsible for the sale of book coupons in their countries and will serve as information centres for all questions relating to the book coupon scheme. Users will be notified about details of the Distributing Bodies in the various participating countries through the press and by other means.

In principle, the book coupons are intended to serve the needs of both institutions and individuals. During the experimental period, however, the amount of coupons which can be put at the disposal of each participating country has to be limited. The Distributing Body may therefore have to make the allocation on a priority basis whereby the needs of educational, scientific and cultural institutions serving a large public can receive first consideration.

The book coupons can be used to buy books on education, science and culture, whose importation is permitted under the laws of the importing country. They can be used for subscriptions to periodicals, for the purchase of individual volumes or issues, and for payment for photo copies.

Book coupons are issued in the following denominations: 25c., $1.00, $3.00 and $10.00. The smallest denomination was particularly designed to enable purchasers to pay for single issues of periodicals, reprints, etc., payment for which is particularly difficult under present currency regulations in most countries.

The Distributing Body in each country will sell to the institutions or individuals, designated as entitled to receive coupons against payment in national currency, the number of book coupons attributed to them at the official dollar rate prevailing in the country on the date of sale. If more than one official rate is in force in a given country, the Distributing Body will indicate the rate applicable for the purchase of book coupons. In addition to the face value of the coupon, the purchaser will have to pay a slight surcharge, which will vary between 5 per cent to 10 per cent, according to regulations laid down by the Distributing Body of the country. The National Distributing Bodies will inform the purchasers of book coupons with regard to the possibility of refund for unused coupons.

The purchaser should always try to find out, preferably from the bookseller with whom he proposes to deal, the correct price of the publication (including postal charges), and whether it is obtainable, so that the exact value of book coupons may be sent, and the risk avoided of sending coupons for publications which are in fact unobtainable.

Only three countries have so far designated distributing bodies to handle *the sale of book coupons:* France, Direction des Bibliothèques de France, 53 rue St. Dominique, Paris 7e; India: Ministry of National Education, Government of India, New Delhi; United Kingdom: Unesco Book Coupons, c/o Tokens Ltd, 28 Little Russell Street, London, W.C. 1.

In addition, a limited free distribution, financed by UNESCO's 1948 Fund for Educational Reconstruction, will be made in the following countries, and these countries have designated agencies where requests for these coupons may be addressed: Austria, China, Czechoslovakia, Greece, Hungary, Indonesia, Iran, Italy, the Philippines, and Poland. It is hoped that at the conclusion of the experimental period the book coupon scheme will be extended to include all member states of UNESCO.

Only three countries have so far supplied information concerning the participation of their booksellers in the scheme. Until further notice, therefore, book coupons can only be used for the purchase of publications from France, United Kingdom, and the United States. The American Booksellers Association, 31 Madison Avenue, New York 10, N. Y., will be the channel for the receipt of orders for books published in the United States.

Professor J. W. Scott informs us that an index of the *Proceedings of the Aristotelian Society* from 1900 to the present is being prepared. This index will cover not only references alphabeti-

cally arranged, but synopses of the argument of all the more important papers. The editor's address is Department of Philosophy, University College of South Wales and Monmouthshire, Cathays Park, Cardiff, Wales, and he will report further progress of the work in due time.

The Fifty-third Annual Meeting of the Michigan Academy of Science, Arts, and Letters was held April 2 and 3, 1949, at Wayne University. The following program was given in the Philosophy Section: "Soren Kierkegaard, Father of Existentialism" by Walter Van Saun; "Spinoza's Concept of Being and Goodness" by Lewis Zerby; "Intelligence and the Philosophy of Value" by R. M. Gonso; "Is There a Third Kind of Knowledge?" by DeWitt H. Parker; "A Theory of Defining" by C. West Churchman.

Guido Calogero, Professor of Philosophy at the University of Rome, is Visiting Professor of Philosophy this year at McGill University.

Newton P. Stallknecht, formerly Professor of Philosophy at Bowdoin College, is now Chairman of the Philosophy Department at Indiana University.

Alfred Cyril Ewing, Lecturer in Moral Science at Trinity College, Cambridge University, will be Visiting Professor of Philosophy at Northwestern University during the Summer Session, 1949. He is Visiting Professor at Princeton University this spring.

Paul Kristeller is on leave of absence during the spring session from Columbia University; he is teaching a course in Renaissance philosophy at the University of Pisa and doing research on Renaissance manuscripts in Italian libraries.

Paul G. Kuntz, formerly of Smith College, is now Assistant Professor of Philosophy and Religion at Grinnell College.